

REPLACED BY:  
ART 34 AMDT

Claims

*add a/c*

1. A wheelchair (10, 128, 150, 200) with a seat (22, 228) with a reclinable backrest (24, 230), the wheelchair (10, 128, 150, 200) being arranged such that as the backrest (24, 230) is reclined the rear wheels (16, 248) of the wheelchair (10, 128, 150, 200) are automatically moved rearwardly to compensate for the rearward movement of the user's centre of gravity, and when the backrest (24, 230) is returned to a more upright position the rear wheels (16, 248) are automatically moved forwards.

2. A wheelchair according to claim 1, characterised in that the backrest (24, 230) is pivotally mounted relative to the rest of the seat (22, 228).

3. A wheelchair according to claims 1 or 2, characterised in that the wheelchair (10, 128, 150, 200) includes means (28, 30, 240) for selectively locking the backrest (24, 230) in a required position.

4. A wheelchair according to claim 3, characterised in that the locking means (28, 30, 240) are releasable by a person on the wheelchair (10, 128, 150, 200) and/or a person pushing the wheelchair (10, 128, 150, 200).

5. A wheelchair according to claim 4, characterised in that the locking means (28, 30) are automatically engageable following release.

6. A wheelchair according to any of claims 3 to 5, characterised in that the locking means (28, 30) comprises a ratchet arrangement (28, 30).

7. A wheelchair according to claim 6, characterised in that the ratchet arrangement comprises a locking member (30) engageable with a ratchet wheel (28).

8. A wheelchair according to claim 7, characterised in that one of the

locking member (30) and ratchet (28) is mounted on the backrest (24) and the other on a fixed part of the wheelchair (10, 128, 150).

9. A wheelchair according to claim 8, characterised in that the fixed part comprises part of the seat (22).

10. A wheelchair according to any of claims 3 to 5, characterised in that the locking means (240) comprises one or more actuatable cylinders (240).

11. A wheelchair according to claim 10, characterised in that the cylinder (240) or cylinders (240) is arranged to return the backrest (230) to a fully upright position.

12. A wheelchair according to any of the preceding claims, characterised in that the rear wheels (16) of the wheelchair (10, 128, 150) are each slidingly mounted on respective in use generally horizontal first tracks (18).

13. A wheelchair according to claim 12, characterised in that a connection arrangement (36) is provided extending between each rear wheel (16) and the backrest (24).

14. A wheelchair according to claim 13 when dependent on claim 2, characterised in that each connection arrangement (36) is engageable with a member (34) on the opposite side of the pivotal mounting of the backrest (24).

15. A wheelchair according to claim 14, characterised in that each connection arrangement (36) is engageable with extensions (32) from the backrest (24).

16. A wheelchair according to claim 15, characterised in that each bracket extension (32) is removably engageable between two abutment members (42).

17. A wheelchair according to claim 16, characterised in that the abutment members (42) are slidably mounted on a second track (38).

18. A wheelchair according to claims 16 or 17, characterised in that at least a one of the abutment members (42) is sprung.

19. A wheelchair according to any of claims 16 to 18, characterised in that each connection arrangement (36) converts movement of the abutment members (42) in one direction to movement of the rear wheels (16) in an opposite direction.

20. A wheelchair according to claim 19, characterised in that the abutment members (42) are mounted on a first carriage (40) which is pivotally connected to a pivoted link member (48) on one side of the pivotal mounting of the link member (48), and which link member (48) is connected on the opposite side of the pivotal mounting to the wheel (16).

21. A wheelchair according to claim 20, characterised in that each link member (48) is connected to the respective wheel (16) by a generally horizontally slidable member (54).

22. A wheelchair according to any of the preceding claims, characterised in that the rear wheels (16) are removably mounted on respective mounting assemblies (62, 64).

23. A wheelchair according to claim 22, characterised in that handbrake arrangements (80) are provided for the rear wheels (16) which are connected to the wheel mounting assemblies (62) so as to be movable therewith

24. A wheelchair according to claim 23, characterised in that adjustment means (84) are provided for the handbrake arrangements (80).

25. A wheelchair according to any of claims 22 to 24 when dependent on claim 21, characterised in that the mounting assemblies (62) are preferably connected to the respective slidable members (40, 54).

26. A wheelchair according to any of claims 1 to 11, characterised in that the

~~rear wheels (248) of the wheelchair (200) are each mounted on an elongate support member (242) which is pivotally mounted to the wheelchair (200) and also connected to the backrest (230), such that reclining of the backrest (230) causes rearwards pivotal movement of the support members (242).~~

27. A wheelchair according to claim 26, characterised in that the support members (242) are mounted about respective in use substantially horizontal axes.

28. A wheelchair according to claims 26 or 27, characterised in that the support members (242) are cranked.

29. A wheelchair according to claim 28, characterised in that the support members (242) are cranked generally adjacent the pivotal mounting and/or the rear wheels (248).

30. A wheelchair according to any of claims 26 to 29, characterised in that the connection between the support members (242) and backrest (230) is provided by a strip (250).

31. A wheelchair according to claim 30, characterised in that the strip (250) is flexible.

32. A wheelchair according to claims 30 or 31, characterised in that the strip (250) is pivotally and/or removably mountable on the support members (242) and/or backrest (230).

33. A wheelchair according to any of the preceding claims, characterised in that the rear wheels (248) are mounted by a suspension arrangement (244).

34. A wheelchair according to claim 33, characterised in that the suspension arrangement (244) comprises a resilient member (254) such as a spring or block of rubber.

~~35. A wheelchair according to claim 34, characterised in that the rear wheels (248) are each mounted on a pivotal member (252), and the resilient member (254) engages with the pivoted member (252).~~

36. A wheelchair according to claim 35, characterised in that each pivoted member (252) is pivotally mounted on a respective support member (242), with the respective resilient member (254) engageable between the support member (242) and pivoted member (252).

37. A wheelchair according to claim 22 or any of claims 23 to 36 when dependent on claim 22, characterised in that the wheel mounting assemblies (62, 64) comprise locking members (72) selectively engageable to lock the wheels (16) on the respective assembly (62, 64).

38. A wheelchair according to claim 37, characterised in that the locking members (72) are operable by a person on the wheelchair (10, 128, 150) and/or a person pushing the wheelchair (10, 128, 150).

39. A wheelchair according to claims 37 or 38, characterised in that the locking members (72) are selectively engageable with bearing members (68) which rotatably mount the wheels (16), the bearing members (68) being releasable with the wheels (16) from the wheelchair (10, 128, 150).

40. A wheelchair according to claim 39, characterised in that a groove (70) is provided around the bearing members (68) in which the respective locking member (72) is selectively engageable.

41. A wheelchair according to claims 39 or 40, characterised in that the wheelchair (10, 128, 150) provides stub axles (66) upon which the bearing members (68) are releasably mountable.

42. A wheelchair according to claim 41, characterised in that the stub axles (66) are arranged such that when the bearing members (68) locate thereon the wheels (16) extend outwardly beyond the stub axles (66).

~~43. A wheelchair according to claims 41 or 42 when dependent on any of claims 12 to 21, characterised in that the stub axles (66) are mounted on second carriages (62) movable along said first tracks (18).~~

44. A wheelchair according to claim 43, characterised in that the locking members (72) are mounted on said second carriages (62).

45. A wheelchair according to claim 44, characterised in that the locking members (72) are slidably movably mounted on said second carriages (62) to be movable towards or away from the bearing members (68).

46. A wheelchair according to claim 45, characterised in that the locking members (72) are pivotally connected to respective operating handles (78) such that pivotal movement of the operating handles (78) causes the respective locking member (72) to slide in or out of engagement with the respective bearing member (68).

47. A wheelchair according to any of claims 43 to 46, characterised in that a plurality of mounting positions for the stub axles (66) on the second carriage (62) are provided.

48. A wheelchair according to claim 47, characterised in that said mounting positions are defined by a plurality of mounting holes.

49. A wheelchair according to any of claims 37 to 48, characterised in that the engageable part of the locking members (72) has a generally U-shape configuration.

50. A wheelchair according to claim 12 or any of claims 13 to 49 when dependent on claim 12, characterised in that the height of the first tracks (18) on the wheelchair (10, 128, 150) are adjustable.

51. A wheelchair according to any of the preceding claims, characterised in

~~that the wheelchair (128) comprises one or more temporary ground engagement arrangements (130), which are selectively ground engageable towards the rear of the wheelchair (128) to permit one or both of the rear wheels (16) to be removed whilst a person remains supported on the wheelchair (128).~~

52. A wheelchair according to claim 51, characterised in that a temporary ground engagement arrangement (130) is provided on each side of the wheelchair (128).

53. A wheelchair according to claims 51 or 52, characterised in that the temporary ground engagement arrangement (130) is operable by a person on the wheelchair (128).

54. A wheelchair according to claims 51 to 53, characterised in that the temporary ground engagement arrangement (130) comprises a ground engagement member (132) connected to a threaded member (140) which can be screwed down until the ground engagement member (132) is ground engaging.

55. A wheelchair according to claim 54, characterised in that the ground engagement member (132) comprises a wheel (132).

56. A wheelchair according to claim 55, characterised in that the wheel (132) is significantly smaller than the rear wheels (16) of the wheelchair (128).

57. A wheelchair according to any of the preceding claims, characterised in that the wheelchair (150) comprises a third wheel arrangement (152) for climbing curbs and the like.

58. A wheelchair according to claim 57, characterised in that the third wheel arrangement (152) is arranged to be selectively ground engaging to permit a rear wheel (16) to be removed with a person on the wheelchair (150).

~~59. A wheelchair according to any of the preceding claims, characterised in that the height of the front wheels (90) is adjustable.~~

60. A wheelchair according to claim 59, characterised in that the front wheels (90) are mounted on a carrier member (96) which is slidably mounted in a channel (92), with means for locking the carrier member (96) relative to the channel (92).

61. A wheelchair according to claim 60, characterised in that a slot (94) or slots (94) and/or alignable holes (98) are provided in a wall or walls of the channel (92) and/or the carrier member (96).

62. A wheelchair according to any of the preceding claims, characterised in that the arm rests (100) of the wheelchair (10, 128, 150) are selectively removable.

63. A wheelchair according to any of the preceding claims, characterised in that the arm rests (100) of the wheelchair (10, 128, 150) are pivotally movable in a substantially vertical plane.

64. A wheelchair according to any of the preceding claims, characterised in that arm rest arrangements including arm rests (100) and side curtains (108) selectively extendible downwardly from the arm rests (100) are included.

65. A wheelchair according to claim 64, characterised in that means (112) are provided for retaining the side curtains (108) extending downwardly.

66. A wheelchair according to claim 65, characterised in that the retaining means (112) include fastening means such as strips of fleece and hook fastener (112) towards the free end of the side curtains (108), with corresponding fasteners (112) on the wheelchair (10, 128, 150).

67. A wheelchair according to any of claims 64 to 66, characterised in that the side curtains (108) are mounted around rollers (110) located in the arm rests (100).



68. ~~A wheelchair according to claim 67, characterised in that the rollers (110) are spring urged to roll up the side curtains (108).~~

69. A wheelchair according to any of the preceding claims, characterised in that the wheelchair (10, 128, 150) comprises two side frames (12) interconnected by a foldable assembly (14) such that the side frames (12) and foldable assembly (14) can lie substantially flat on each other.

70. A wheelchair according to claim 69, characterised in that the foldable assembly (14) is pivotally connected to the side frames (12), with the assembly comprising two parts (116, 118) joined by a generally central vertical hinge (120) such that in an in use condition the assembly (14) extends in a generally planar configuration between and generally normal to the side frames (12), and in a folded condition the assembly (14) is folded to lie substantially parallel to the side frames (12).

71. A wheelchair according to claims 69 or 70, characterised in that front and rear foldable assemblies are provided.

72. A wheelchair according to claim 71, characterised in that the front (14) and rear foldable assemblies are arranged so that when being moved towards a folded condition the central hinges (120) move towards the other of said assemblies.

73. A wheelchair according to claims 71 or 72, characterised in that the front assembly (14) mounts the front wheels (90) of the wheelchair (10, 128, 150).

74. A wheelchair according to any of claims 71 to 73, characterised in that the rear assembly is spaced from the rearmost part of the wheelchair (10, 128, 150) so this does not obstruct the feet of a person pushing the wheelchair (10, 128, 150).

75. A wheelchair according to claim 69, characterised in that a foldable assembly is provided, which extends generally horizontally in use.

76. A wheelchair according to claim 75, characterised in that in use the foldable assembly locates beneath the wheelchair seat (20).

77. A wheelchair according to any of claims 69 to 76, characterised in that the foldable assembly or assemblies are adjustable in size to vary the spacing between the side frames (12).

78. A wheelchair according to claim 77, characterised in that the central hinges (120) are slidably movable relative to the remainder of the assemblies (114) on each side thereof to space said remainders apart.

79. A wheelchair according to any of claims 69 to 78, characterised in that the wheelchair seat (20) is removably mountable on the wheelchair (10, 128, 150) to extend between the side frames (12).

80. A wheelchair according to claim 79, characterised in that the wheelchair seat (20) is releasably lockable in position.

81. A wheelchair according to claims 79 or 80 when dependent on claims 77 or 78, characterised in that a plurality of different widths of seat (20) are provided usable with the wheelchair (10, 128, 150) with the widths of the front and rear assemblies differently adjusted.

82. A wheelchair (10, 128, 150) with wheel mounting assemblies for each of the rear wheels (16), the assemblies comprising locking members (72) selectively engageable to lock the wheels (16) on the respective assembly.

83. A wheelchair according to claim 82 and any of claims 38 to 42.

84. A wheelchair (10, 128, 150) in which the height of the front wheels (90) is adjustable.

85. A wheelchair according to claim 84 and claims 60 or 61.

86. A wheelchair (10, 128, 150) with arm rest arrangements including arm rests (100) and side curtains (108) selectively extendible downwardly from the arm rests (100).

87. A wheelchair according to claim 86 and any of claims 65 to 68.

88. A wheelchair (10, 128, 150) comprising two side frames (12) interconnected by a foldable assembly (14) such that the side frames (12) and foldable assembly (14) can lie substantially flat on each other.

89. A wheelchair according to claim 88 and any of claims 70 to 81.